

## **REMARKS**

**A.     The claims fulfill the requirements of 35 U.S.C. §112, 1<sup>st</sup> paragraph.**

The Office Action rejects Claims 1-6 under 35 U.S.C. §112, first paragraph for failing to provide an enabling disclosure for “derivatives” of the claimed DNA-R of the invention. The Office acknowledges that the claims are enabled for a human cell surface DNA receptor (DNA-R) set forth in SEQ ID NO. 2, a DNA binding fragment comprising amino acids 1-575 of SEQ ID NO. 2 and a soluble human DNA-R having amino acids 1133-1171 deleted therefrom. Applicants have amended the pending claims to recite these embodiments, and respectfully contend that their amendments overcome the asserted grounds of rejection. Applicants wish to make of record their contention that the amendments do not exclude from the scope of their claimed invention amino acid sequence variants, either naturally-occurring or man-made, having DNA binding properties of the explicitly claimed DNA-R.

Applicants respectfully submit that their amendments overcome the asserted ground of rejection under 35 U.S.C. §112, first paragraph, and request that this ground of rejection be withdrawn.

**B.     The claims fulfill the requirements of 35 U.S.C. §112, 2nd paragraph.**

The Office Action rejects Claims 1-6 under 35 U.S.C. §112, second paragraph. The Action asserts that the claims are indefinite and states that the claims in current form do not clearly recite whether the limitation, “having a molecular weight ....”, limits DNA-R, its derivatives, or both. Applicants have amended their claims to recite the amino acid sequence rather than limitations based on predicted molecular weight, and respectfully contend that their claims reciting the sequence would be understood to have a predicted molecular weight “before any post-translational modifications thereof.” Applicants respectfully contend that these amendments overcome the asserted ground of rejection, and respectfully request that the Examiner withdraw this ground of rejection.

The Office Action suggests that claims be amended to provide the complete name for DNA-R, “a mammalian cell surface DNA receptor (DNA-R).” The claims have been

amended as suggested by Examiner. Applicants thank the Examiner for these helpful suggestions.

Applicants respectfully submit that their amendments overcome the asserted ground of rejection under 35 U.S.C. §112, second paragraph, and request that this ground of rejection be withdrawn.

**C. The claims are not anticipated by the cited prior art.**

The Office Action rejects claim 4 under 35 U.S.C. 102(b) as being anticipated by Fantin *et al.* The Office Action asserts that Fantin *et al.* teach a membrane preparation of 293 cells, and alleges that the Fantin *et al.* cell membrane preparation inherently contains the claimed DNA-R.

Applicants respectfully remind the Examiner that Fantin does not teach that the claimed DNA-R protein is present in the membrane of 293 cells, but instead describes the identification of a distinctly different receptor, Insulin Receptor Substrate 4. The evidence of record does not support the assertion that human 293 cells contain the claimed DNA-R of this invention. However, in an effort to expedite prosecution, Applicants have amended the claims to recite “An isolated” homogenous composition/cell membrane preparation, because Fantin does not teach an isolated homogeneous composition/cell membrane preparation having an amino acid sequence identified by SEQ ID No.:2.

The Office Action further rejects claim 4 under 35 U.S.C. 102(b) as being anticipated by Hefeneider *et al.* The Office Action asserts that Hefeneider *et al.* teach a cell membrane preparation from human PBMC, which contains a cell surface DNA receptor the Examiner asserts is likely to be the same as the claimed receptor. The Action reasons that because the claimed protein receptor exists in cell membranes in nature, Hefeneider *et al.* inherently teach the claimed invention.

Applicants have amended claim 4, as set forth above, to recite an isolated homogeneous composition/cell membrane preparation having an amino acid sequence identified by SEQ ID No.:2. Hefeneider does not explicitly teach an *isolated* homogeneous composition/cell membrane preparation having an amino acid sequence

identified by SEQ ID No.:2. Therefore, Applicants respectfully contend that Hefeneider *et al.* do not meet all the claim limitations and thus the reference does not anticipate the pending claims. Accordingly, Applicants respectfully request withdrawal of these grounds of rejection.


### **CONCLUSION**

It is believed that all requirements of patentability are fully met, and allowance of the claims is respectfully requested.

If the Examiner believes it to be helpful, he or she is invited to contact the undersigned attorney by telephone at 312-913-3344.

Respectfully submitted,  
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